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ABSTRACT

In this paper, models for preservice teacher education, inservice teacher education, and curriculum development that reflect the present and projected needs of students and teachers are presented. The key to success in each of these models is the direct involvement of teachers and trainees in the planning, learning, teaching, and evaluation processes. (CJ)

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MODELS FOR TEACHER PRE-SERVICE AND
IN-SERVICE TRAINING and CURRICULUM
DEVELOPMENT IN AMERICA'S PUBLIC
SCHOOLS: Theories That Work !

Dr. Richard O. Peters

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Dr. Peters has been a classroom teacher (grades 5 - 12); an ESEA Title III curriculum researcher; a K - 12 curriculum coordinator; a department chairperson; a supervisor of student teachers (pre-service training) at The University of Rochester; and administrator/director of an NIE five year funded Experimental Schools (ES) project with an emphasis on teacher in-service training .

Dr. Peters has written several articles and position papers on the subject of teacher pre-service and in-service training and has been published in the ERIC System, The Maine Teacher, The Common, and Rural/Regional Education News .

" MODELS ..." is a synopsis of published
articles written by this author between
1970 and 1978 .

INTRODUCTION

Transfusing schools with new and creative practices requires a carefully engineered approach - one that considers not only the efficiency of the proposed innovation and the effectiveness of the strategies employed but also the impact of the change process on the people involved over a long period of time .¹

Before any decisions can be made regarding the efficiency, effectiveness, or impact of proposed innovation and strategies to be employed, there is a need to clearly define and innumerate the goals of the instructional system and to clarify the basic tenants of the change process .

THE CHANGE PROCESS

At the height of the curriculum 'revolution' in the 1960s, following Sputnik (1957) and the initiation of National Defense Education Act (NDEA) projects - nationwide, The Fund For The Advancement Of Education² published its comments on the movement toward 'relevance' in instruction .

¹ Robert G. Scanlon quoted in The Structure of Cellular Learning: Theory and Practice In The Realm of Teacher Inservice Training As Related To Career Education by Dr. Richard O. Peters .

² The Changing School Curriculum . The Fund For The Advancement Of Education (New York) 1966, pgs. 9, 14 and 15 .

The country (had) passed through some twenty years of economic depression and war; we (had) lost sight of education as a potent force for societal welfare, and (had) neglected our schools. Educators, parents, and other interested citizens (have) voiced their concern and were instrumental in starting what (has) proved to be a substantial reform in the curricula of (our) elementary and secondary schools. ...In virtually every field the focal point for teachers and students alike is an instructional materials package: invariably a textbook or series of textbooks and frequently supplementary books, workbooks, teachers' manuals, filmstrips, films, programed materials, and laboratory experiments. Students often learn about subject matter through audiovisual media of instruction and whenever possible by directly observing phenomena and the methods of dealing with these phenomena. Many curriculum builders seek to organize their fields around the primary structural elements of each discipline: the concepts, key ideas, principals, and modes of inquiry.

Is the change process to effect content, attitudes, behavior, or values? Is the change to be short term or long lasting? What is the change process target group? What degree of measurable and observable change is to occur? When is the change to occur? ETC.

In order to ask such questions and to seek their answers, there is a need to create a psychovisual construct; that is, a model which provides for the inclusion of several component parts (factors) which collectively make up the process called formal education. That construct is referred to herein as the structure of cellular learning theory.

The theory of cellular learning is based upon the premise that in the final analysis all formalized instruction and pedagogical strategies can be reduced to a common denominator -- personal interaction(s) with people, places, and things.

According to this theory, the learning process consists of two unique, but interrelated, variables; primary and secondary cells, which constantly interact to create what is known as 'schooling' in the formal sense.

Primary Learning Cell(s). PLCs are those curriculum organization structure directly related to instruction and learning, e.g., self-contained classrooms, open classrooms, team teaching, individualized instruction, while other cells perform secondary functions.

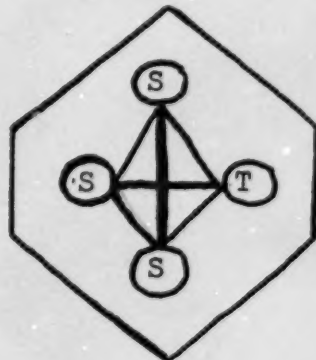
Secondary Learning Cell(s). SLCs are instructional hardware and software, financial resources, community and interest group support, local school board policies, etc. which enhance and reinforce affective, cognitive, and psychomotor skills development.

Sub-divisions of the Secondary Learning Cells include:

Instructional Media Cell(s). Each IMC is the domain of a particular device or material which possesses unique characteristics and properties; each having different effects upon learning and skills development. For example, maps serve specific, but different, purposes within the instructional process than do films and/or charts.

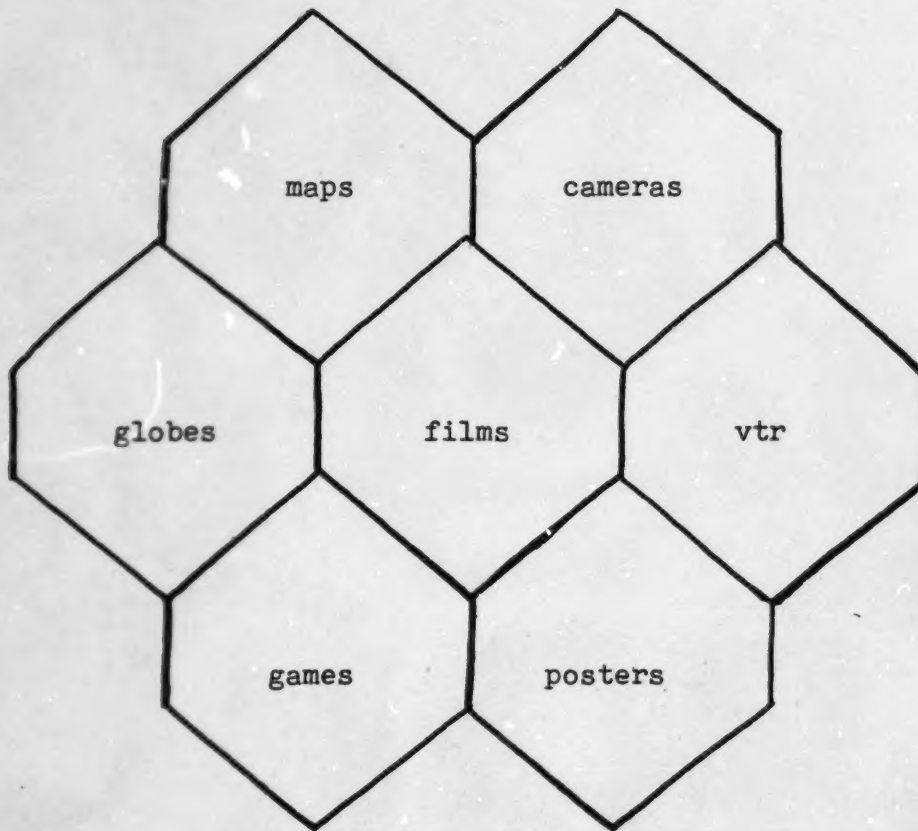
Organizational Cell(s). OCs consist of strategies and designs employed to effect learning and to maximize human interactions, e.g., media centers, independent/small group study, and modular scheduling.

Collectively, the several Primary and Secondary Learning Cells (PLCs and SLCs) form a 'honeycomb' design. Teachers must be trained in and become sensitive to the constant need for a harmonious blending of PLCs and SLCs which enhance student learning and enrich the instructional process.



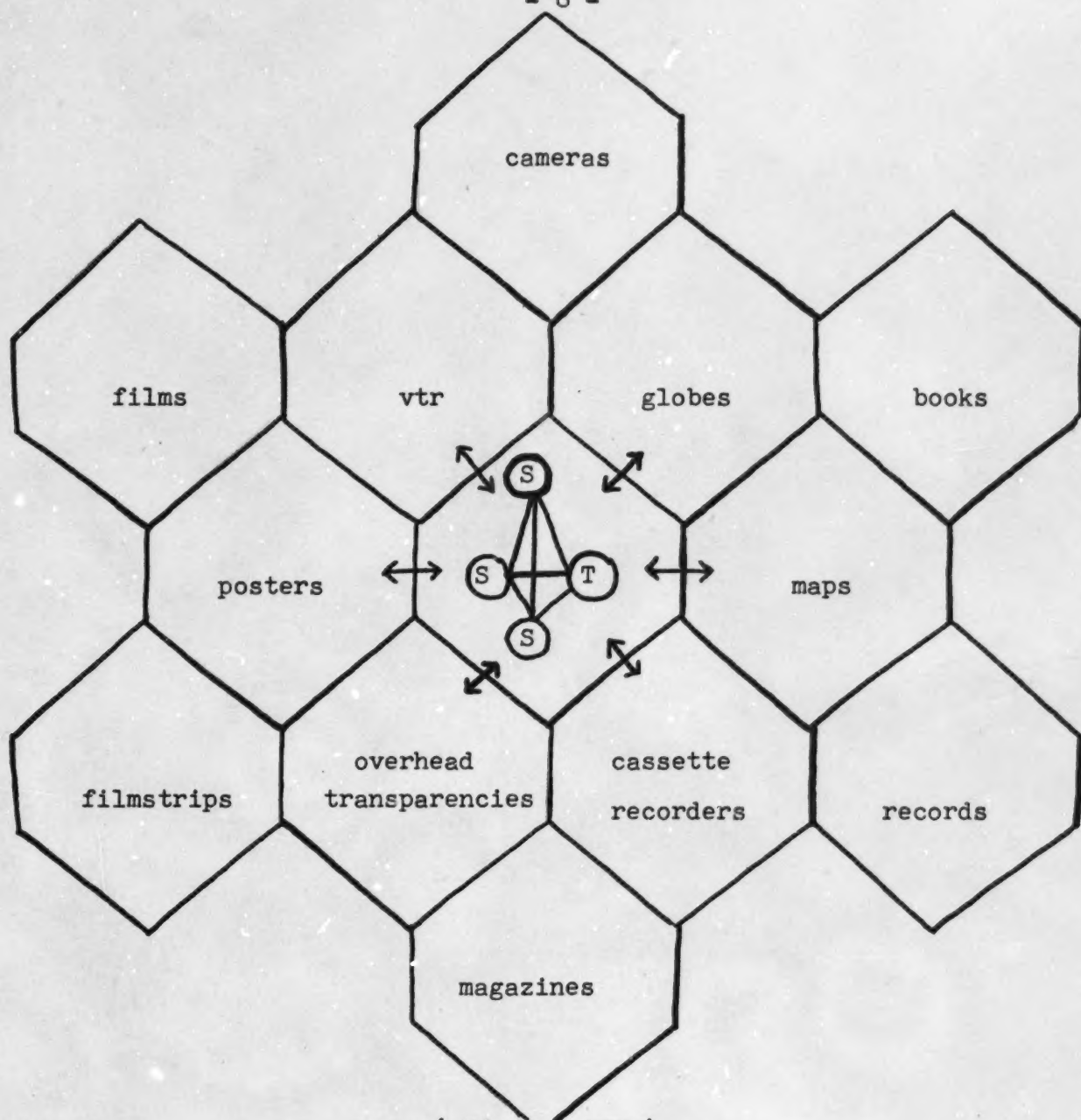
(Diagram I)

A Simple PLC Interaction Cell. Interaction between students (S) and teacher(s) (T) and among students.



(Diagram II)

Instructional Media Cells



(Diagram III)

Interaction between a simple PLC Interaction Cell and several Instructional Media Cells(↔).

PRESERVICE TRAINING

For those prospective teachers enrolled in today's professional preparatory programs on college and university campuses across America, there is a need for institutions of higher education to provide them with experiences which will expose them to the several facets of the world of elementary/secondary education, on a continuous basis, throughout their preparatory 'careers'. By that, the author means, students enrolled in preservice teacher education programs should be exposed to both in-school and field based elementary/secondary grade school instructional activities from their Freshman year on -- as part of a combined awareness/exploration and content/skills training process which culminates in a Senior year level student teaching experience. Leading up to that 'culminating' experience should be hours of college/university level training, independent study, laboratory school based practicums, and field based observations and teacher aide type activities in classrooms at the elementary and/or secondary grade level. This holistic approach to professional preparation enables the preservice trainee to:

1. gain exposure to diverse situations -- both contrived (role playing) and real.
2. develop an awareness of the real world of the American education system.
3. obtain and reinforce formalized training in subject matter content and skills related areas.
4. realistically evaluate whether or not a future in teaching is in the best interest of that individual. There is no justifica-

tion in making a trainee wait until the Senior year to experience the classroom -- and then discover that he or she does not want to pursue a career in education. To do so is to deceive that individual and to waste his or her time and money.

There are several instructional strategies and learning experiences which can be incorporated into any preservice training program at the college/university level. Among those options are:

1. field trips to elementary/secondary schools to observe student/teacher interaction both in the structured learning situation and at play.
2. meetings with classroom teachers (serving as guest speakers) to discuss careers and related training.
3. role playing teacher aides in real classroom situations -- and then following up these experiences with simulated activities in lab settings.
4. taping micrp-teaching units for 'self' and 'other' evaluation(s).
5. group discussion meetings and 'buzz' sessions related to real and simulated experiences.
6. formalized instruction in subject matter content and related skills.

7. independent study and related activities during the school year and summer vacations.
8. volunteer work with various youth programs, HeadStart, Upward Bound, etc. for experience and credit.
9. enrollment in consultant service and state department of education developed workshops held on-campus or at public/private school sites. These workshops are geared to/ offered to inservice teachers -- with preservice trainees as participants.
10. formalized student teaching in real classrooms -- under the supervision and tutelage of experienced classroom teachers and campus based personnel from the teacher training program.

Whatever the strategy employed, preservice training must provide for trainee contact/interaction with the real world of elementary/secondary grade education.

INSERVICE TRAINING

An important aspect of any inservice training program is direct teacher involvement in the on-going process of curriculum development, implementation, and evaluation in both the classroom and in the field.

The overall purpose of inservice programs is to provide practicing classroom teachers, resource personnel, and building/system level administrators with quality training which:

1. develops their awareness of new practices and techniques.
2. exposes those on the 'firing line' to the how-to-do-its of their profession.
3. provides social interaction situations.
4. allows for the exchange of ideas and experiences.
5. provides the opportunity for skills development and/or application.
6. provides opportunities for exposure to and interaction with new instructional equipment and materials.

7. directly involves educators in the process of instructional program development.
8. provides the opportunity to use teachers/ staff personnel/ administrators as resource people for other educators; using the resource person's expertise and skills in peer group instruction situations.

As new programs are added to the school curriculum, there is a need to provide teachers with an introduction to and training in subject matter content and skills areas. The goal of inservice training should be to enable teachers to become better acquainted with a variety of subject matter areas as well as media devices, and to become more proficient in their teaching and/or use. For example, video tape equipment workshops are examples of Instructional Media Cell (IMC) introduction and skills acquisition. In keeping with the theoretical properties of the cellular learning concept, workshops provide participants with the knowledge and skills necessary to use and to evaluate the instructional value and effectiveness of video tape equipment.

Today, the character of inservice programs is diverse. While some systems and districts concentrate their efforts on the development of local programs, other systems have turned to colleges and universities, consultant services, funded projects, and state departments of education for assistance.

Up until the mid-1960s, workshop agendas and presentations were generally prepared by administrators -- without concern for the interests and needs of teachers. The result -- a well-developed workshop program on paper but ineffectual and lacking participant enthusiasm in actuality. With the advent of ESEA Title III projects, a greater degree of attention was paid to the development of inservice workshop programs which not only exposed teachers to innovations but captured the urgency of their day-to-day classroom/teaching needs.

Inservice programs should provide school system personnel the opportunities to:

1. develop awareness of and exposure to concepts, content, materials, pedagogical strategies, and skills related to newly emerging and/or adopted areas of study such as career education, environmental education, and health education.
2. gain knowledge and skills enrichment in more-familiar content and service subjects such as language arts, mathematics, music, physical education, science, and the social studies.
3. acquire professional recertification credit(s).
4. participate directly in the school system's decision making process(es).

It should be remembered that a well-defined and planned workshop program can be an adequate alternative to college/university level summer session courses of study. The success of any staff development or workshop program is dependant upon the degree to which it directly involves the classroom teacher in its planning and execution, and meets his or her immediate and long range goals, interests, and needs. Put another way, the key to the success of teacher training programs is 'proximity'; that is, the degree (in spacial relationship and hours) of direct trainee/teacher contact with the various facets of the education process -- including decision making, planning, and evaluation/revision.

With the advent of school system level training/enrichment programs and state accredited commercial workshop programs, institutions of higher learning have been made aware of the need for them to directly involve their facilities and faculties with practicing teachers and to expose themselves to the day-to-day happenings of the classroom.

In order to effect the attitudes, values, and skills development of students, the American classroom teacher must:

1. be prepared to function in each of the three domains of Bloom and Krathwohl's taxonomy of educational objectives.
2. have gained practical experience in working with students (of differing abilities and interests) in each domain.

3. possess an attitudinal frame-of-reference and personality which encourages an atmosphere of 'openness' in the classroom that results in a mutual teacher/student quest for knowledge and reason.

During the course of a typical academic year, the average American classroom teacher functions in many interrelated roles. The typical classroom teacher is:

1. an attitudinal, behavioral, and values exemplary model for students.
2. an information resource person.
3. a guider of student inquiry and learning.
4. a confidant to students.
5. an 'expert' in a given discipline of knowledge.
6. a substitute parent.
7. a guardian of the community's social standards.
8. an appraiser of student progress and evaluator of their behavior and academic performance.
9. a program planner.
10. a tutor.
11. a disciplinarian.

12. a group leader.
13. an initiator of learning and inquiry.
14. a friend.
15. a record/grade keeper.
16. a play ground supervisor.
17. a referee
18. a first-aid expert.
19. a mender of broken hearts and dreams.
20. a guidance counselor.
21. a consultant to parents.

In a 1975 - 1977 longitudinal study, teachers indicated that:

1. inservice training is perceived to be professionally important.
2. workshops are an effective way to learn new methods, techniques, and/or skills.
3. workshops stimulate teachers to be more creative in their classrooms.
4. there is a definite 'transferability' factor to workshops. Teachers apply skills learned at workshops to their classroom instruction.
5. workshop success is dependant, in part, upon subject matter and content, skills and methods/techniques taught, methods of instruction used by the instructor, the location of the workshop(s), materials displayed and used, and the instructor's personality.

According to elementary grade teachers (K-6), they have a preference for less-structured, highly informal, and more-individualized types of training sessions which allow for personal involvement in training activities. Secondary teachers (7-12) have a preference for formally structured, 'other' directed training activities which closely resemble the structure and content of college/

university courses.³

In order for any instructional program to be developed, adopted, implemented, and/or successfully integrated into the existing school/classroom curriculum there is a need for teacher understanding and commitment to the value and worth of the program of instruction.

There are different types of instructional activities which can constitute a formalized inservice program.

Workshops. All-day and half-day release time sessions which provide opportunities for skills development, materials construction, how-to-do-it techniques, and program orientation, as well as lesson development and curriculum writing.

Minishops. Two hour-of-less long enrichment activities concerned with materials introduction and how-to-do-it demonstrations.

Skillshops. Follow-ups to workshops, skillshops are geared toward skills enrichment and are usually scheduled for short periods of time.

³ Variables That Determine The Effectiveness Of Teacher In-service Workshops. ERIC Clearinghouse On Teacher Education, Washington, DC, November 1976. ED 126 035

Field Trips and Tours. Opportunities for teachers to explore the natural, social, and human resources within their community.

Guest Speakers. Community resource people instruct teachers in skills development and application to their classroom duties.

Visitations. Professional visits to other teachers/classrooms for purposes of awareness and orientation to instructional techniques, materials, programs, and learning activities/experiences.

CURRICULUM

Curriculum is the total formal education process by which students are directly involved in both in-school and out-of-school activities in the community.

There are several interrelated variables which comprise a given curriculum.

WHAT is it to be done? (Goals)

WHY is it to be done? (Objectives)

WHEN is it to be done? (Planning/Timing)

HOW is it to be done? (Process/Strategies)

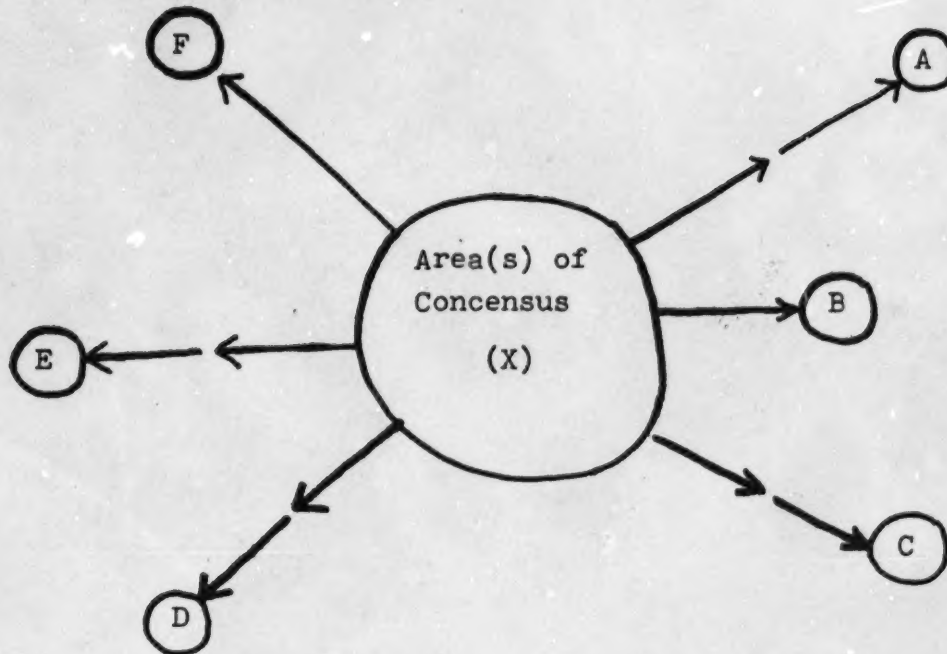
WHERE is it to be done? (Organization/Structure)

WHO is to do it? (Roles/Tasks)

HOW WELL is (was) it done? (Evaluation/Feedback)

Two curriculum management models have been devised, by this author, and used to compare 'before' and 'after' stages of program development.

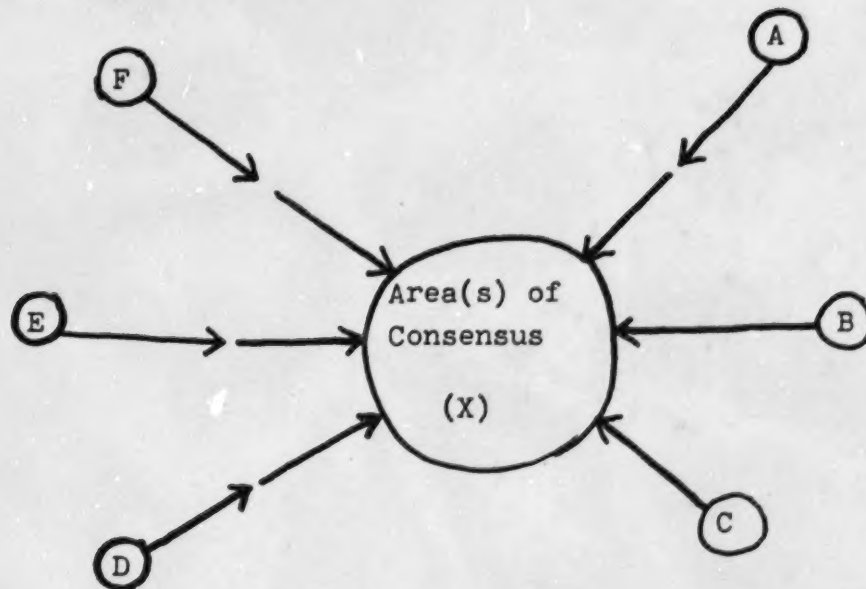
The Explosive Model.



MOVEMENT OUTWARD AWAY FROM ...

The character and nature of the Explosive Model provides for a multi-directional, disorganized, and decentralized approach to program development. The distance from the area(s) of consensus (X) outward to any given unit (school or curriculum) (A-F) is dependant upon that unit's alteration of and/or deviation from the area(s) of consensus.

The Implosive Model.



MOVEMENT INWARD TOWARD ...

Unlike the characteristics of the Explosive Model, in the Implosive Model each unit (school or curriculum) (A-F) moves inward toward area(s) of consensus. This inward movement results in program coordination, consistency, and uniformity throughout a given system. The distance inward from each unit (A-F) to the area(s) of consensus (X) is dependant upon the degree to which the process of curriculum change or development of that particular unit reflects the character and nature of the area(s) of consensus; the stated goals and/or objectives. The distance from each unit to the center (the area(s) of consensus) is

determined by the similarities and differences between existing curricula (the 'where we are') and the proposed curricula (the 'where we want to be').

The Implosive Model depicts a state of proximity congruency involving animate and inanimate properties. Proximity congruency is defined, by this author, as both the perceived and close physical spatial relationship between two or more animate or inanimate objects which bring them in close harmony for purposes of completeness; that is, unity or wholeness and interaction.

The curriculum specialist (called the 'change agent') must provide sufficient time for several important program development processes to occur. TIME is the only commodity that cannot be manipulated; that is, it can be rationed and utilized to its fullest but it is a 'constant' which cannot be condensed or expanded.

The program development process includes:

1. organization.
2. planning.
3. affecting attitudes and behaviors.
4. development.
5. implementation.

6. evaluation.

7. revision.

Before a change agent can successfully undertake any task related to curriculum development, implementation, or revision, he or she must, first, have the undivided attention of those with whom he/she will work. An inservice training program is one strategy by which the change agent can get the teacher's attention.

Whatever the strategy employed or vehicles used to effect teacher awareness, skills attainment, or attitudes and behaviors, there is a need for the change agent to map out a plan of action.

The process of assigning staff members to specific tasks requires that the change agent assess the professional strengths and weaknesses of each and every teacher. It is absolutely necessary for the change agent to know what people can successfully accomplish and achieve. Failure in task accomplishment will result in teachers who are alienated from the change process.

It is the responsibility of the change agent to develop teacher awareness of primary and secondary learning cells, to involve them in creating environments conducive to learning and inquiry, and to assist teachers in utilizing those cellular variables which best enhance instruction.

One framework for curriculum development provides for teacher exchange of ideas, discussion of mutual problems, and the development of instructional strategies. The use of 'buzz' sessions eliminates formality and allows teachers to discuss interests and problems freely and candidly.

Informal discussions enable teachers to become directly involved in the process of curriculum development and revision. Teachers become active participants who bring their educational expertise to bear on professional growth and curriculum improvement issues.

SCHOOLS AND OTHER THINGS

The typical 'school day' should be a period of time within which both teachers and students have opportunities to work and learn, cooperatively, as well as to explore and inquire as individuals. It should be so structured that teachers can be released from routine classroom chores (by trained aides) to actively participate in a variety of inservice education activities during the course of the school day -- rather than always after school.

There is a need to clearly define the role(s) of students and teachers in the learning process; in order to determine each individual's responsibilities, and to clearly define the teacher's role in the accountability process. There is a need for in-depth understanding(s) (on the part of the teacher) of the content of given subject matter areas. There is a constant, driving need to expose teachers to new content areas and to newer theories and practices of the more-familiar subject matter disciplines.

The school cannot provide all the kinds of experiences and information essential for all the students to possess. There is a world outside the walls of the classroom which holds great educational/training potential for enriched student learning and application as well as a preparation for life roles.

The community based school concept is one way by which students can give awareness of their surroundings, can become directly exposed to the character of their community, and can develop necessary career-personal-social skills.

A social experience based curriculum does not minimize the educational importance or effect(s) of academic disciplines-of-knowledge in the realm of student learning -- but rather strives to incorporate out-of-school experiences into the total scope of formal learning set within the confines of a social setting, and attempts to utilize the physical characteristics and facilities of resource sites, as well as the expertise and skills of community inhabitants, in an attempt to effect the student's affective, cognitive, and psychomotor development.

STATEMENT

In 1980, the character of preservice and inservice professional education training must reflect both the realism of today and the needs of those who are about to enter the classroom -- as well as those seasoned veterans of the chalkboard.

Institutions of higher learning must become aware of the 'real world' of the classroom and must better prepare future teachers to be aware of the realities of classroom teaching. The successful trainee turn teacher must gain experiences in the 'real world' of teaching -- and must not be trained solely in simulated environments!

School systems must offer teachers inservice programs which meet their needs re: instruction and classroom management, and which introduce/enrich subject matter content and instructional skills.

The role of the visiting consultant has taken on new meaning. Instead of an evaluating visitor, teachers are now confronted with 'experts' in various areas of the education process who work WITH them in open-ended, inquiry oriented, teacher directed workshop situations. Rather than merely telling teachers what to do and how to do it, the workshop consultant must be equipped with the

abilities, knowledge, and talents to demonstrate his or her expertise, and be willing to be evaluated by other participating educators.

The key to preservice and inservice training success is direct involvement on the part of teachers and trainees, alike, in the planning, learning/teaching, and evaluation processes.

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